

### Claims

1. An isolated region of the Y chromosome between SKY1 and sY83 which encompasses the Y-specific growth gene GCY.
2. An isolated region according to claim 1 which is about 700 Kb in size.
3. An isolated region according to claim 1 or 2 in which the Y chromosome is a human chromosome.
4. An isolated region according to claims 1 or 3 which is between SKY8 and sY83.
5. An isolated region according to claims 1 or 3, which is between sY79 and sY81.
6. An isolated GCY protein, encoded by a region of the Y chromosome within the interval SKY1 and sY83.
7. An isolated GCY protein according to claim 6 encoded by a region within the interval SKY8 and sY83.
8. An isolated GCY protein according to claim 7 encoded by a region between sY79 and sY81.
9. An isolated GCY protein according to claim 8, which is ADLY or a functional fragment thereof.
10. A nucleic acid primer having a nucleic acid sequence selected from a nucleic acid sequence as shown in Tables 2, 5, 6, 7A, 7B, 7C or 8.
11. A method of studying GCY localisation or identifying a GCY gene associated with height comprising the use of a primer according to claim 10 to selectively amplify or detect a region of a nucleic acid molecule.
12. An isolated protein having greater than 65% homology to the GCY protein of claims 6-9, and which contributes to the sex-related height difference in humans.

13. Use of a nucleic acid molecule comprising at least a portion of the isolated region of the Y chromosome between markers SKY8 and sY83, or a sequence complementary thereto, to identify the presence or absence of a GCY gene associated with height.